

# Yuchen Zhao

Lecturer in Computer Science

## Education

- 2013–2017 **Ph.D., Computer Science**, University of St Andrews, St Andrews, UK
- 2011–2013 **M.Sc., Information Security**, Wuhan University, Wuhan, China
- 2007–2011 **B.Eng., Information Security**, Huazhong University of Science and Technology, Wuhan, China

## Appointments

- 09/2022– **Lecturer**, Department of Computer Science, University of York, York, UK
- 10/2019– **Research Associate**, Dyson School of Design Engineering, Imperial College London, London, UK  
09/2022
- 07/2018– **Research Fellow**, School of Electronics and Computer Science, University of Southampton, Southampton, UK  
10/2019
- 07/2017– **Research Fellow**, Cyber Security Centre, De Montfort University, Leicester, UK  
06/2018

## Publications

- [1] Y. Zhao, P. Barnaghi, and H. Haddadi. Multimodal Federated Learning on IoT Data. In *Proceedings of the 2022 IEEE/ACM 7th International Conference on Internet-of-Things Design and Implementation*, IoTDI '22, pages 43–54, Milan, Italy, May 2022. <https://doi.org/10.1109/IoTDI54339.2022.00011>.
- [2] Y. Zhao, S. S. Afzal, W. Akbar, O. Rodriguez, F. Mo, D. Boyle, F. Adib, and H. Haddadi. Towards Battery-Free Machine Learning and Inference in Underwater Environments. In *Proceedings of the 23rd Annual International Workshop on Mobile Computing Systems and Applications*, HotMobile '22, page 29–34, Tempe, Arizona, Mar. 2022. <https://doi.org/10.1145/3508396.3512877>.
- [3] Y. Zhao, H. Liu, H. Li, P. Barnaghi, and H. Haddadi. (Preprint) Semi-supervised Federated Learning for Activity Recognition, 2021. arXiv:2011.00851, Online at <https://arxiv.org/abs/2011.00851>.
- [4] F. Palermo, H. Li, A. Capstick, N. Fletcher-Lloyd, Y. Zhao, S. Kouchaki, R. Nilforooshan, D. Sharp, and P. Barnaghi. (POSTER) Designing A Clinically Applicable Deep Recurrent Model to Identify Neuropsychiatric Symptoms in People Living with Dementia Using In-Home Monitoring Data. In *NeurIPS '21 Workshop - Bridging the Gap: From Machine Learning Research to Clinical Practice*, 2021. arXiv:2110.09868, Online at <https://arxiv.org/abs/2110.09868>.
- [5] Y. Zhao, H. Haddadi, S. Skillman, S. Enshaeifar, and P. Barnaghi. Privacy-Preserving Activity and Health Monitoring on Databox. In *Proceedings of the Third ACM International Workshop on Edge Systems, Analytics and Networking*, EdgeSys '20, pages 49–54, Heraklion, Greece, Apr. 2020. <https://doi.org/10.1145/3378679.3394529>.
- [6] Y. Zhao and I. Wagner. Using Metrics Suites to Improve the Measurement of Privacy in Graphs. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 19(1):259–274, Jan. 2022. (first published on 13 Mar 2020), <https://doi.org/10.1109/TDSC.2020.2980271>.
- [7] T. Blount, L. Koesten, Y. Zhao, and E. Simperl. Understanding the Use of Narrative Patterns by Novice Data Storytellers. In *Proceedings of the 4th International Conference on Computer-Human Interaction Research and Applications*, pages 128–138, 2020. <https://doi.org/10.5220/0010121601280138>.

- [8] Y. Zhao, T. Blount, L. Koesten, and E. Simperl. Structured and Uncertainty-Aware Data Storytelling. In *CHI '19 Workshop on HCI for Accurate, Impartial and Transparent Journalism: Challenges and Solutions*, Glasgow, UK, May 2019. Online at <https://bit.ly/3bSkuVh>.
- [9] Y. Zhao and I. Wagner. On the Strength of Privacy Metrics for Vehicular Communication. *IEEE Transactions on Mobile Computing (TMC)*, 18(2):390–403, Feb. 2019. (first published on 03 May 2018), <https://doi.org/10.1109/TMC.2018.2830359>.
- [10] Y. Zhao and I. Wagner. POSTER: Evaluating Privacy Metrics for Graph Anonymization and De-Anonymization. In *Proceedings of the 2018 on Asia Conference on Computer and Communications Security, ASIACCS '18*, pages 817–819, Incheon, Republic of Korea, 2018. <https://doi.org/10.1145/3196494.3201586>.
- [11] Y. Zhao. *Recommending Privacy Preferences in Location-sharing Services*. PhD thesis, University of St Andrews, June 2017.
- [12] Y. Zhao, J. Ye, and T. Henderson. A Robust Reputation-Based Location-Privacy Recommender System Using Opportunistic Networks. In *Proceedings of the 8th EAI International Conference on Mobile Computing, Applications and Services, MobiCASE'16*, pages 62–73, Cambridge, Great Britain, 2016. <https://doi.org/10.4108/eai.30-11-2016.2267031>.
- [13] Y. Zhao, J. Ye, and T. Henderson. The Effect of Privacy Concerns on Privacy Recommenders. In *Proceedings of the 21st International Conference on Intelligent User Interfaces, IUI '16*, pages 218–227, Sonoma, California, USA, Mar. 2016. <https://doi.org/10.1145/2856767.2856771>.
- [14] Y. Zhao. Usable Privacy in Location-Sharing Services. In *Companion Publication of the 21st International Conference on Intelligent User Interfaces, IUI '16 Companion*, pages 110–113, Sonoma, California, USA, Mar. 2016. <https://doi.org/10.1145/2876456.2876458>.
- [15] Y. Zhao, J. Ye, and T. Henderson. Privacy-Aware Location Privacy Preference Recommendations. In *Proceedings of the 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services, MOBIQUITOUS '14*, pages 120–129, London, United Kingdom, Dec. 2014. <https://doi.org/10.4108/icst.mobiquitous.2014.258017>.
- [16] Y. Zhao, J. Ye, and T. Henderson. (POSTER) Recommending Location Privacy Preferences in Ubiquitous Computing. In *Proceedings of the 7th ACM Conference on Security and Privacy in Wireless and Mobile Networks, WiSec '14*, Oxford, United Kingdom, July 2014. Online at <http://hdl.handle.net/10023/5075>.

## Service

### Technical programme committees

- 2022 **Program committee, The 2nd IEEE/IFIP International Workshop on Internet of Things Management (Manage-IoT '22, co-located with IEEE/IFIP NOMS '22)**, April, 2022, Budapest, Hungary
- 2021 **Program committee, The 1st Workshop on Security and Privacy for Mobile AI (MAISP '21, co-located with ACM MobiSys '21)**, 24 June, 2021, Online, Worldwide
- 2020 **Program committee, The 14th ACM Conference on Recommender Systems (RecSys '20)**, 22-26 September, 2020, Online, Worldwide
- 2019 **Program committee, Demo & LBR of the 27th ACM Conference on User Modelling, Adaption and Personalization (UMAP '19)**, 9-12 June, 2019, Larnaca, Cyprus  
**Program committee, The 27th ACM Conference on User Modelling, Adaption and Personalization (UMAP '19)**, 9-12 June, 2019, Larnaca, Cyprus
- 2018 **Poster committee, The 16th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '18)**, 10-15 June, 2018, Munich, Germany

### Organising Committee

- 2020 **Local arrangements co-chairs, The 26th Annual International Conference on Mobile Computing and Networks (MobiCom '20)**, 21-25 September, 2020, London, United Kingdom

### Reviewer

- 2022 **IEEE Transactions on Computers**  
**Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies**  
**ACM Transactions on Privacy and Security**  
**ACM Transactions on Computing for Healthcare**
- 2021 **IEEE Transactions on Information Forensics and Security**  
**IEEE Transactions on Big Data**
- 2020 **IEEE Transactions on Big Data**  
**Computers & Security**
- 2018 **Computer Communications**  
**Journal of Information Security and Applications**
- 2016 **The 13th International Conference on Wirtschaftsinformatik**, *February 12-15, 2017, St. Gallen, Switzerland*  
**Policy & Internet**
- 2015 **The 12th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC '15)**, *August 10-14, 2015, Beijing, China*  
**The 7th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE '15)**, *November 12-13, 2015, Berlin, Germany*  
[Student Volunteer](#)
- 2016 **The 8th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE '16)**, *Cambridge, UK*  
**The 21st International Conference on Intelligent User Interface (IUI '16)**, *Sonoma, CA, USA*

## Talks

- 2021 **"Federated Learning in the Wild"**, *Brave Research Reading Session*, Online  
**"Smart Healthcare using IoT Data and Machine Learning"**, *Sensing and the Internet of Things*, Online  
**"IoT Technology based Solutions to Challenges in Healthcare"**, *ULTRATOOL-IoT Student Project*, Online
- 2020 **"IoT Technology based Solutions to Challenges in Healthcare"**, *Sensing and the Internet of Things*, Online  
**"Privacy-preserving Activity and Health Monitoring on Databox"**, *The Third ACM International Workshop on Edge Systems, Analytics and Networking*, Online
- 2018 **"Human Data Interaction"**, *WAIS Seminar*, Southampton
- 2017 **"A Robust Reputation-based Location-privacy Recommender System using Opportunistic Networks"**, *The Scottish Networking Event (SCONE)*, Glasgow
- 2016 **"A Robust Reputation-based Location-privacy Recommender System using Opportunistic Networks"**, *The 8th EAI International Conference on Mobile Computing, Applications and Services*, Cambridge  
**"Usable Privacy in Location-Sharing Services"**, *The Student Consortium of the 21st International Conference on Intelligent User Interfaces*, Sonoma  
**"The Effect of Privacy Concerns on Privacy Recommenders"**, *The 21st International Conference on Intelligent User Interfaces*, Sonoma
- 2014 **"Privacy-aware Location-privacy Preference Recommendations"**, *The 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services*, London  
**"Privacy-aware Location-privacy Preference Recommendations"**, *The Scottish Networking Event (SCONE)*, Edinburgh

## Funding

- 2013–2017 **600<sup>th</sup> Anniversary Scholarship** (award rate = 7/80), *University of St Andrews*

2016 **IUI 2016 Student Travel Grant**

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## Student Supervision

2021– **Ph.D (as assistant supervisor)**, Mengjia Niu  
ICL

2021– **Ph.D (as assistant supervisor)**, Yushan Huang  
ICL

2020–2021 **Undergraduate Research Opportunity Programme**, Leonardo Bossi  
ICL

2019–2020 **Undergraduate Research Opportunity Programme**, Hanyang Liu and Danni Shi  
ICL

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## Teaching

2022–2023 **Lecturer**, CRES (Cyber Security Research Skills)  
York

2021–2022 **Guest lecturer**, Sensing and Internet of Things  
ICL

2020–2021 **Guest lecturer**, Sensing and Internet of Things  
ICL

**Tutor**, Design Engineering Futures

2018–2019 **Tutor**, COMP6234 (Data Visualisation)  
Southampton

2016–2017 **Demonstrator**, CS1002 (Object-Oriented Programming)

St Andrews **Demonstrator**, CS2001 (Foundations of Computation)

**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)

2015–2016 **Tutor**, CS1002 (Object-Oriented Programming)

St Andrews **Tutor**, CS1006 (Programming Projects)

**Demonstrator**, CS1002 (Object-Oriented Programming)

**Demonstrator**, CS2001 (Foundations of Computation)

**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)

2014–2015 **Tutor**, CS1006 (Programming Projects)

St Andrews **Demonstrator**, CS1002 (Object-Oriented Programming)

**Demonstrator**, CS1003 (Programming with Data)

**Demonstrator**, CS1006 (Programming Projects)

**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)